



## **DEPARTMENT OF THE INTERIOR**

### **Fish and Wildlife Service**

#### **50 CFR Part 17**

**[Docket No. FWS–R4–ES–2013–0087]**

**[4500030113]**

**RIN 1018–AZ11**

**Endangered and Threatened Wildlife and Plants; Endangered Status for *Physaria globosa* (Short’s bladderpod), *Helianthus verticillatus* (whorled sunflower), and *Leavenworthia crassa* (fleshy-fruit gladeceess)**

**AGENCY:** Fish and Wildlife Service, Interior.

**ACTION:** Final rule.

**SUMMARY:** We, the U.S. Fish and Wildlife Service (Service), determine endangered species status under the Endangered Species Act of 1973 (Act), as amended, for *Physaria*

*globosa* (Short's bladderpod), *Helianthus verticillatus* (whorled sunflower), and *Leavenworthia crassa* (fleshy-fruit gladeceess). Short's bladderpod occurs in Indiana, Kentucky, and Tennessee. Whorled sunflower occurs in Alabama, Georgia, and Tennessee. Fleshy-fruit gladeceess occurs only in Alabama. The effect of this regulation will be to add these species to the List of Endangered and Threatened Plants.

**DATES:** This rule is effective [**INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER**].

**ADDRESSES:** This final rule is available on the internet at <http://www.regulations.gov> and <http://www.fws.gov/cookeville>. Comments and materials we received, as well as supporting documentation we used in preparing this rule, are available for public inspection at <http://www.regulations.gov>. All of the comments, materials, and documentation that we considered in this rulemaking are available by appointment during normal business hours at: U.S. Fish and Wildlife Service, Tennessee Ecological Services Field Office, 446 Neal Street, Cookeville, TN 38501; telephone 931-528-6481; facsimile 931-528-7075.

**FOR FURTHER INFORMATION CONTACT:** Mary E. Jennings, Field Supervisor, U.S. Fish and Wildlife Service, Tennessee Ecological Services Field Office, (see **ADDRESSES** above). Persons who use a telecommunications device for the deaf (TDD) may call the Federal Information Relay Service (FIRS) at 800-877-8339.

## SUPPLEMENTARY INFORMATION:

### Executive Summary

*Why we need to publish a rule.* Under the Act, a species may warrant protection through listing if it is endangered or threatened throughout all or a significant portion of its range. Listing a species as an endangered or threatened species can only be completed by issuing a rule.

*This rule will finalize the listing of* *Physaria globosa* (Short's bladderpod), *Helianthus verticillatus* (whorled sunflower), and *Leavenworthia crassa* (fleshy-fruit glade cress) as endangered species.

*The basis for our action.* Under the Act, we can determine that a species is an endangered or threatened species based on any of five factors: (A) the present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors affecting its continued existence. We have determined that listing is warranted for these species, which are currently at risk throughout all of their respective ranges due to threats related to:

- For Short's bladderpod, potential future construction and ongoing maintenance of transportation rights-of-way; prolonged inundation and soil erosion due to flooding and

water level manipulation; overstory shading due to forest succession and shading and competition from invasive, nonnative plant species; and small population sizes.

- For whorled sunflower, mechanical or chemical vegetation management for industrial forestry, right-of-way maintenance, or agriculture; shading and competition resulting from vegetation succession; limited distribution and small population sizes.
- For fleshy-fruit gladeceess, loss of habitat due to residential and industrial development; conversion of agricultural sites for use as pasture; maintenance of road rights-of-way via mowing and herbicide treatment prior to seed production; shading due to natural forest succession; competition from invasive nonnative plants; off-road vehicles and dumping; limited distribution; and small sizes and limited genetic variation of some populations.

*Peer review and public comment.* We sought comments from independent specialists to ensure that our designation is based on scientifically sound data, assumptions, and analyses. We invited these peer reviewers to comment on our listing proposal. We also considered all comments and information received during the comment period.

### **Previous Federal Action**

Please refer to the proposed listing rule for Short's bladderpod, whorled sunflower, and fleshy-fruit gladeceess (78 FR 47109; August 2, 2013) for a detailed description of previous Federal actions concerning this species.

We will also be finalizing critical habitat designations for the Short's bladderpod, whorled sunflower, and fleshy-fruit gladeceess under the Act in the near future.

### **Summary of Comments and Recommendations**

In the proposed rule published on August 2, 2013 (78 FR 47109), we requested that all interested parties submit written comments on the proposal by October 1, 2013. We also contacted appropriate Federal and State agencies, scientific experts and organizations, and other interested parties and invited them to comment on the proposal. Newspaper notices inviting general public comment were published in the Cherokee County Herald, The Birmingham News, and The Decatur Daily in Alabama; the Rome News Tribune in Georgia; The Posey County News in Indiana; the Lexington Herald-Leader and The State Journal in Kentucky; and the Jackson County Sentinel, The Tennessean, The Leaf Chronicle, Carthage Courier, and Hartsville Vidette in Tennessee. We did not receive any requests for a public hearing. All substantive information provided during comment periods has either been incorporated directly into this final determination or addressed in our responses to the comments below.

### *Peer Reviewer Comments*

In accordance with our peer review policy published on July 1, 1994 (59 FR 34270), we solicited expert opinion from 15 knowledgeable individuals with scientific

expertise that included familiarity with one or more of these species and their habitats, biological needs, and threats. We received responses from five of the peer reviewers.

We reviewed all comments received from the peer reviewers for substantive issues and new information regarding the listing of Short's bladderpod, whorled sunflower, and fleshy-fruit gladechess. The peer reviewers generally concurred with our methods and conclusions, and one of the peer reviewers provided additional information, clarifications, and suggestions to improve the final rule. Peer reviewer comments are addressed in the following summary and incorporated into the final rule as appropriate.

*(1) Comment:* One peer reviewer informed us about preliminary results from a research project studying germination ecology of Short's bladderpod seeds, which has been initiated since the publication of the proposed rule. Preliminary results from this research indicate that seed viability is high in the population studied and that when pretreated with gibberellic acid, Short's bladderpod seeds germinate at greater proportions under conditions approximating mean diurnal temperatures that occur during late spring/early autumn and summer, versus those approximating conditions that occur during early spring/late autumn.

*Our Response:* We have incorporated this information in the Background section for Short's bladderpod.

(2) *Comment:* One peer reviewer brought to our attention a journal article (Ooi 2012) reporting results from research indicating that increasing summer temperatures could raise soil temperatures and increase loss of soil moisture in open habitats, which could accelerate loss of viable seeds from the soil because seedling mortality due to desiccation (drying out of a living organism) could increase following germination events. The reviewer suggested that this change could reduce the ability of species like Short's bladderpod to maintain soil seed banks, which provide resilience for populations to rebound from declines by recruiting new individuals when favorable conditions for germination and establishment are present.

*Our Response:* We agree and have incorporated this information into this rule in the Summary of the Biological Status and Threats for Short's bladderpod.

(3) *Comment:* One peer reviewer brought to our attention studies examining the influence of the species' mating system on genetic variation and structure in fleshy-fruit gladechess and on the potential for the species to hybridize with the closely related *Leavenworthia alabamica* (Koelling *et al.* 2011, Koelling and Mauricio 2010). The reviewer suggested that these data do not alter conclusions concerning the level of endangerment of fleshy-fruit gladechess, but that they are relevant to the analysis under Factor E.

*Our Response:* We concur and have incorporated this information into this rule in the Summary of the Biological Status and Threats for fleshy-fruit gladechess.

*(4) Comment:* One peer reviewer informed us of published data on germination phenology in fleshy-fruit gladeceess (Caudle and Baskin 1968, p. 334) and a congener (an organism belonging to the same taxonomic genus as another organism), *Leavenworthia stylosa* (Baskin and Baskin 1972), which demonstrated the influence of ambient temperature on germination phenology in these species.

*Our Response:* We concur with the data and have incorporated the information into this rule in the Summary of the Biological Status and Threats for fleshy-fruit gladeceess.

#### *Public Comments*

*(5) Comment:* Among other comments received, a comment from Plum Creek, a land and timber company, informed us that in April 2013 it acquired properties in Cherokee County, Alabama, and Floyd County, Georgia, where the whorled sunflower occurs. These properties were previously owned by The Campbell Group. Plum Creek acknowledged that the Coosa Valley Prairie property in Floyd County, Georgia, is protected by a conservation easement held by The Nature Conservancy, and expressed its intent to continue to manage that property under an adaptive management framework designed to benefit the natural community, including whorled sunflower. Plum Creek also expressed its intent to manage whorled sunflower where it occurs on their lands outside of the conservation easement.



*Our Response:* We have included this new information concerning ownership of the lands where two whorled sunflower populations are located into this rule. The Service appreciates Plum Creek's commitment to work with the conservation community to provide sound management for whorled sunflower and its habitat on the company's lands where the species occurs in Alabama and Georgia. The Service will work with Plum Creek and State conservation agencies in Alabama to develop a conservation agreement for the Alabama subpopulation located on Plum Creek lands.

### **Summary of Changes from Proposed Rule**

The changes to this rule are limited to the addition of new information in the Background and Summary of Biological Status and Threats sections, which were brought to our attention by peer reviewers, the public, and the Tennessee Valley Authority (TVA) (see **Background**—Fleshy-fruit gladeceess, below). The most substantive change is the addition of one known extant population of fleshy-fruit gladeceess that was not reported in the proposed listing rule, which brings the total number of known extant occurrences of this species to seven. The existence of this additional occurrence, which is located in a TVA transmission line right-of-way and is potentially threatened by maintenance activities, does not change the determination reached in the proposed listing rule that fleshy-fruit gladeceess should be listed as endangered.

### **Background**

## Short's bladderpod

*Physaria globosa* is a member of the mustard family (Brassicaceae) known from Posey County, Indiana; Clark, Franklin, and Woodford Counties, Kentucky; and Cheatham, Davidson, Dickson, Jackson, Montgomery, Smith, and Trousdale Counties, Tennessee. Short's bladderpod typically grows on steep, rocky, wooded slopes and talus (sloping mass of rock fragments below a bluff or ledge) areas. It also occurs along tops, bases, and ledges of bluffs. The species usually is found in these habitats near rivers or streams and on south- to west-facing slopes. Most populations are closely associated with calcareous outcrops (Shea 1993, p. 16). The Short's bladderpod site in Indiana, where the species is found in a narrow strip of herbaceous vegetation between a road and forested bank of a cypress slough (M. Homoya, Natural Heritage Program Botanist, Indiana Department of Natural Resources, December 2012), is unique among populations of the species.

Short's bladderpod is an upright biennial or perennial (lives for 2 years or longer) with several stems, some branched at the base, reaching heights up to 50 centimeters (cm) (20 inches (in.)), and which are leafy to the base of the inflorescence (a group or cluster of flowers arranged on a stem that is composed of a main branch or a complicated arrangement of branches). Preliminary results from research at the Missouri Botanical Garden indicate that seed viability is high in one of the Tennessee populations they studied and that seeds germinated at higher rates under greenhouse conditions approximating mean diurnal temperatures that occur during late spring/early autumn and

summer, versus those approximating conditions that occur during early spring/late autumn. Further studies are under way to develop a protocol for propagating seedlings to reproductive maturity (M. Albrecht, Assistant Curator of Conservation Biology, Center for Conservation and Sustainable Development at Missouri Botanical Garden, September 30, 2013).

#### Whorled sunflower

*Helianthus verticillatus* is a member of the sunflower family known from Cherokee County, Alabama; Floyd County, Georgia; and McNairy and Madison Counties, Tennessee. It is found in moist, prairie-like remnants, which in a more natural condition exist as openings in woodlands and adjacent to creeks. The Alabama and Georgia populations are located on flat to gently rolling uplands and along stream terraces in the headwaters of Mud Creek, a tributary to the Coosa River. In Tennessee, the Madison County population occurs along Turk Creek, a tributary to the South Fork Forked Deer River, and in adjacent uplands. The McNairy County population occurs along Prairie Branch, a headwater tributary to Muddy Creek in the Tuscumbia River drainage. It is a perennial arising from horizontal, tuberous-thickened roots with slender rhizomes. The stems are slender, erect, and up to 2 meters (m) (6 feet (ft)) tall. The leaves are opposite on the lower stem, verticillate (whorled) in groups of 3 to 4 at the mid-stem, and alternate or opposite in the inflorescence at the end. Individual leaves are firm in texture and have a prominent mid-vein, but lack prominent lateral veins found in

many members of the genus. The flowers are arranged in a branched inflorescence typically consisting of 3 to 7 heads.

#### Fleshy-fruit gladeceess

Fleshy-fruit gladeceess is an annual, spring-flowering member of the mustard family (Brassicaceae) that is endemic to a 21-km (13-mi) radius area in north central Alabama (Rollins 1963, p. 63). It is a glabrous (morphological feature is smooth, glossy, having no trichomes (bristles or hair-like structures)) winter annual known from Lawrence and Morgan Counties, Alabama. It is a component of glade flora and occurs in association with limestone outcroppings. Populations of fleshy-fruit gladeceess are now located in glade-like remnants exhibiting various degrees of disturbance, including pastures, roadside rights-of-way, and cultivated or plowed fields (Hilton 1997, p. 5). As with most of the cedar glade endemics, fleshy-fruit gladeceess exhibits weedy tendencies, and it is not uncommon to find the species growing in altered habitats. It usually grows from 10 to 30 cm (4 to 12 in) tall. The leaves are mostly basal, forming a rosette, and entire to very deeply, pinnately (multiple leaflets attached in rows along a central stem) lobed or divided, to 8 cm (3.1 in) long. Flowers are on elongating stems, and the petals are approximately 0.8 to 1.5 cm (0.3 to 0.6 in.) long, obovate (ovate with the narrower end basal) to spatulate (having a broad, rounded end), and emarginate (notched at the tip).

The proposed listing rule reported that there were only six extant fleshy-fruit gladeceess occurrences. After publication of the proposed rule, the TVA informed us of

the existence of one additional occurrence that was discovered in 2008, but not included in the proposed listing rule. As a result, there are currently seven known extant occurrences of fleshy-fruit gladeceess documented, three in Morgan and four in Lawrence Counties, Alabama. One of these occurs on U.S. Forest Service lands, where it is formally protected. The occurrence that TVA informed us about is located in a TVA transmission line right-of-way. A 1961 record from Lauderdale County has never been confirmed (McDaniel and Lyons 1987, p. 6).

Please refer to the proposed listing rule for Short's bladderpod, whorled sunflower, and fleshy-fruit gladeceess (78 FR 47109; August 2, 2013) for a summary of species information.

### **Summary of Biological Status and Threats**

Section 4 of the Act (16 U.S.C. 1533), and its implementing regulations at 50 CFR part 424, set forth the procedures for adding species to the Federal Lists of Endangered and Threatened Wildlife and Plants. Under section 4(a)(1) of the Act, we may list a species based on any of the following five factors: (A) The present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; and (E) other natural or manmade factors affecting its continued existence. Listing may be

warranted based on any of the above threat factors, singly or in combination. Each of these factors is discussed below.

### *Short's bladderpod*

The most significant threats to Short's bladderpod were described in the proposed listing rule (78 FR 47109; August 2, 2013) under Listing Factors A (the present or threatened destruction, modification, or curtailment of its habitat or range) and E (other natural or manmade factors affecting its continued existence). Based on the Factor A analysis, we concluded that the loss and degradation of habitat represents the greatest threat to Short's bladderpod. The main causes for habitat loss and degradation are potential future construction and ongoing maintenance of transportation rights-of-way; prolonged inundation and soil erosion due to flooding and water level manipulation; and overstory shading due to forest succession and shading and competition from invasive, nonnative plant species.

Road construction has caused the loss of habitat and all Short's bladderpod plants at five occurrences, and roadside maintenance or road widening could adversely affect nearly 40 percent of the extant occurrences of the species due to their position in roadside habitats. Future development of a proposed commuter rail project to improve intercity commute options between the cities of Nashville and Clarksville, Tennessee (Nashville Area Metropolitan Planning Organization 2010, p. 98), could affect 27 percent of known extant occurrences, including some locations where the species is most abundant.

Prolonged inundation and soil erosion due to flooding and water level fluctuations threaten 19 percent of extant Short's bladderpod occurrences, most notably the single Indiana occurrence, where the species has been present in large numbers but recently experienced a reduction in numbers due to prolonged flooding. The remaining occurrences threatened by prolonged inundation and soil erosion are located along reaches of the Cumberland River that are impounded by Army Corps of Engineers dam projects used for flood control and navigation. Overstory shading due to natural forest succession, combined with shading and competition due to invasive, nonnative shrubs and herbaceous species presents the most widespread, imminent threat to Short's bladderpod, and has been implicated in the loss of several historic occurrences. Due to these threats, which are expected to continue into the foreseeable future, the geographic range of Short's bladderpod has been reduced to 26 extant occurrences out of 55 that have been tracked by State conservation agencies.

The Factor E analysis in the proposed listing rule demonstrated that Short's bladderpod is vulnerable to adverse effects of small population size, including potential for reduced genetic variation, low numbers of compatible mates, increased likelihood of inbreeding depression, and reduced resilience to recover from acute demographic effects of other threats to the species and its habitat. Fewer than 100 plants have ever been observed at one time at 12 (46 percent) of the 26 extant occurrences, and many of these occurrences are distantly isolated from other occurrences. Existing threats may be exacerbated by the effects of ongoing and future climate change, especially projected increases in temperature and increased frequency and severity of droughts in the

Southeast and projected increases in flooding in the Midwest. As noted above, increases in soil temperatures and soil moisture evaporation in response to predicted ambient warming could accelerate rates of soil seed bank depletion by increasing the seedling mortality rate (Ooi 2012, pp. S54–S55) and diminish the resilience of Short’s bladderpod populations by reducing the species’ ability to maintain soil seed banks.

A peer reviewer brought to our attention a publication by Ooi (2012, pp. S54–S55) indicating that increasing summer temperatures could raise soil temperatures in open habitats, which could lead to increased evaporation of soil moisture and potentially higher rates of seedling mortality following germination events. Given the species’ preference for open-canopy habitats that are often located on south- to west-facing slopes where solar irradiance is high, we agree with the commenter that accelerated loss of viable seeds in the soil due to increasing soil temperatures could reduce the resilience of Short’s bladderpod populations by reducing the suitability of the species’ habitat for maintaining soil seed banks. A reduced ability to maintain soil seed banks would reduce the capacity for populations to rebound from declines, which could occur during periods of adverse environmental conditions such as drought or disturbance, by recruiting new individuals when favorable conditions for germination and recruitment are restored.

Based on our review of the best available scientific and commercial information, we conclude that adverse effects associated with small and often isolated populations, as described in the Factor E analysis, both alone and in conjunction with the widespread threats described under Factor A, constitute significant threats to Short’s bladderpod.



### *Whorled sunflower*

The most significant threats to whorled sunflower were described in the proposed listing rule (78 FR 47109; August 2, 2013) under Listing Factors A (the present or threatened destruction, modification, or curtailment of its habitat or range) and E (other natural or manmade factors affecting its continued existence). Based on the Factor A analysis, we concluded that the loss and degradation of habitat represents the greatest threat to whorled sunflower. Past and ongoing risk of adverse effects from mechanical or chemical vegetation management for industrial forestry, right-of-way maintenance, or agriculture is a threat to three of the four extant populations of this species. Modification of the remnant prairie habitats that the species occupies due to shading and competition resulting from vegetation succession also threatens these three populations, limiting growth and reproductive output of whorled sunflower. These threats are expected to continue in the foreseeable future. A conservation easement and suitable habitat management currently alleviates these threats that otherwise would adversely affect the Georgia population.

The Factor E analysis in the proposed listing rule demonstrated that whorled sunflower is vulnerable to localized extinction because of its extremely restricted distribution and small population sizes at most known locations. There are only four extant populations, and a fifth historical population has not been observed at the species' type locality since its collection there in 1892. Small population size could be affecting

reproductive fitness of whorled sunflower by limiting availability of compatible mates or by causing higher rates of inbreeding among closely related individuals. Both of these could be contributing to reduced achene production and viability rates, which limit the species' ability to recover from acute demographic effects of habitat loss or modification. The species' dependence on remnant prairie habitats, which are isolated on the landscape, limits the potential for recolonization in the event that localized extinction events occur.

Based on our review of the best available scientific and commercial information, we conclude that adverse effects associated with extremely restricted distribution and small and isolated populations, as described in the Factor E analysis, both alone and in conjunction with the threats described under Factor A, constitute significant threats to whorled sunflower.

#### *Fleshy-fruit gladeceess*

The most significant threats to fleshy-fruit gladeceess were described in the proposed listing rule (78 FR 47109; August 2, 2013) under Listing Factors A (the present or threatened destruction, modification, or curtailment of its habitat or range) and E (other natural or manmade factors affecting its continued existence). Based on the Factor A analysis, we concluded that the loss and degradation of habitat represents the greatest threat to fleshy-fruit gladeceess. The species' geographic range has been reduced from 21 occurrences to 7 extant occurrences. The threats to the species from habitat destruction and modification are occurring throughout the entire range of the species. These threats

include agricultural conversion from row-crop production to pasture, incompatible agricultural practices including poorly timed herbicide application or plowing, maintenance of transportation rights-of-way including mowing and herbicide treatment prior to seed set along roadsides, off-road vehicles, dumping, residential and industrial development, and shading and competition. In addition to these threats, the occurrence located in the TVA transmission line right-of-way could face threats associated with incompatible right-of-way maintenance, similar to those occurrences located in transportation rights-of-way. Converting row-crop fields to pastures eliminates periodic disturbance from plowing that, when well timed, arrests succession and creates favorable conditions for germination and seedling establishment.

Conservation efforts of the U.S. Forest Service have removed threats associated with off-road vehicle use and encroachment of invasive species at one site; however, maintenance of transportation or electrical transmission line rights-of-way and use of off-road vehicles could adversely affect the other six extant populations. Shading due to natural forest succession and competition from nonnative invasive plants presents a significant threat to fleshy-fruit glade species, and has been implicated in the loss of five historic occurrences. One site, reported to be widely open in 1968, is now partially shaded due to closing of the canopy and the presence of nonnative plants, including *Ligustrum vulgare* (common privet) and *Lonicera maackii* (bush honeysuckle). These species are significant threats in many glades. These threats are expected to continue into the foreseeable future.

The Factor E analysis in the proposed listing rule demonstrated that fleshy-fruit gladeceess is vulnerable to localized extinction because of the small number of occurrences and the small sizes of many of the extant populations within its limited range. Small population sizes could decrease the resilience of some fleshy-fruit gladeceess occurrences to recover from effects of other threats affecting the species' habitat. There are only seven remaining fleshy-fruit gladeceess occurrences, and only one of these is protected. The loss of any occurrences would significantly impact the species' viability by reducing its redundancy on the landscape, which would increase its vulnerability to stochastic environmental stressors and reduce the species' resilience to recover from effects of threats discussed in the above sections. The loss of any occurrences could significantly erode the species' overall genetic variation, given the high levels of structuring and apparent low levels of gene flow among populations (Koelling *et al.* 2011, pp. 315–316).

In addition to the threats discussed in the Factor E analysis in the proposed listing rule, data brought to our attention by a peer reviewer indicate that genetic variation is low in self-compatible populations of fleshy-fruit gladeceess (Koelling *et al.*, pp. 315–316), which could limit their adaptive potential to respond to environmental change (Primack 1998, p. 283). Habitat disturbance or unintentional human movement resulting in contact between populations of fleshy-fruit gladeceess and *Leavenworthia alabamica* could also present the threat of hybridization; though, at this time these species do not occur together in the wild and the potential for hybridization is reduced by incompatibility between them (Koelling and Mauricio 2010, pp. 417–419).

Based on our review of the best available scientific and commercial information, we conclude that adverse effects associated with limited distribution and small size and limited genetic variation of some populations, as described here and in the Factor E analysis in the proposed listing rule, both alone and in conjunction with the threats described under Factor A, constitute significant threats to fleshy-fruit gladeceess.

Please refer to **Summary of Factors Affecting the Species** section of the proposed listing rule for a more detailed discussion of the factors affecting *Physaria globosa* (Short's bladderpod), *Helianthus verticillatus* (whorled sunflower), and *Leavenworthia crassa* (fleshy-fruit gladeceess). Our assessment evaluated the biological status of these species and threats affecting their continued existence. The assessment was based upon the best available scientific and commercial data.

## **Determination**

The Act defines an endangered species as any species that is “in danger of extinction throughout all or a significant portion of its range” and a threatened species as any species “that is likely to become endangered throughout all or a significant portion of its range within the foreseeable future.” We find that Short's bladderpod, whorled sunflower, and fleshy-fruit gladeceess are presently in danger of extinction throughout their entire ranges based on the severity and immediacy of threats currently impacting these species. The overall ranges of Short's bladderpod and fleshy-fruit gladeceess have

been significantly reduced, the range of whorled sunflower encompasses only four known populations, and the remaining habitat and populations of all three species are threatened by a variety of factors acting in combination to reduce their overall viability. The risk of extinction is high because the remaining populations are in many cases small, isolated, and have limited potential for recolonization. Therefore, on the basis of the best available scientific and commercial information, we are listing Short's bladderpod, whorled sunflower, and fleshy-fruit gladechess as endangered in accordance with sections 3(6) and 4(a)(1) of the Act. We find that a threatened species status is not appropriate for these three plants because of their reduced and restricted ranges, because the threats are occurring rangewide and are not localized, and because the threats are ongoing and expected to continue into the future.

Under the Act and our implementing regulations, a species may warrant listing if it is endangered or threatened throughout all or a significant portion of its range. The threats to the survival of the species occur throughout their ranges and are not restricted to any particular significant portion of those ranges. Accordingly, our assessment and proposed determination applies to the species throughout their entire ranges.

### **Available Conservation Measures**

Conservation measures provided to species listed as endangered or threatened under the Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. The Act encourages cooperation with the States and requires that recovery actions be carried out for all listed species. The

protection required by Federal agencies and the prohibitions against certain activities are discussed, in part, below.

The primary purpose of the Act is the conservation of endangered and threatened species and the ecosystems upon which they depend. The ultimate goal of such conservation efforts is the recovery of these listed species, so that they no longer need the protective measures of the Act. Subsection 4(f) of the Act requires the Service to develop and implement recovery plans for the conservation of endangered and threatened species. The recovery planning process involves the identification of actions that are necessary to halt or reverse the species' decline by addressing the threats to its survival and recovery. The goal of this process is to restore listed species to a point where they are secure, self-sustaining, and functioning components of their ecosystems.

Recovery planning includes the development of a recovery outline shortly after a species is listed and preparation of a draft and final recovery plan. The recovery outline guides the immediate implementation of urgent recovery actions and describes the process to be used to develop a recovery plan. Revisions of the plan may be done to address continuing or new threats to the species, as new substantive information becomes available. The recovery plan identifies site-specific management actions that set a trigger for review of the five factors that control whether a species remains endangered or may be downlisted or delisted, and methods for monitoring recovery progress. Recovery plans also establish a framework for agencies to coordinate their recovery efforts and provide estimates of the cost of implementing recovery tasks. Recovery teams

(composed of species experts, Federal and State agencies, nongovernmental organizations, and stakeholders) are often established to develop recovery plans. When completed, the recovery outlines, draft recovery plans, and the final recovery plans will be available on our website (<http://www.fws.gov/endangered>), or from our Tennessee Ecological Services Field Office (see **FOR FURTHER INFORMATION CONTACT**).

Implementation of recovery actions generally requires the participation of a broad range of partners, including other Federal agencies, States, Tribes, nongovernmental organizations, businesses, and private landowners. Examples of recovery actions include habitat restoration (e.g., restoration of native vegetation), research, captive propagation and reintroduction, and outreach and education. The recovery of many listed species cannot be accomplished solely on Federal lands because their range may occur primarily or solely on non-Federal lands. To achieve recovery of these species requires cooperative conservation efforts on private, State, and Tribal lands.

Following publication of this final listing rule, funding for recovery actions will be available from a variety of sources, including Federal budgets, State programs, and cost-share grants for non-Federal landowners, the academic community, and nongovernmental organizations. In addition, pursuant to section 6 of the Act, the States of Georgia, Indiana, and Tennessee and the Commonwealth of Kentucky will be eligible for Federal funds to implement management actions that promote the protection or recovery of Short's bladderpod and/or whorled sunflower. The State of Alabama has not entered into a cooperative agreement with the Service to establish eligibility for receiving



Federal funds to implement management actions that promote the protection or recovery of plant species listed as threatened or endangered under the Act. Information on our grant programs that are available to aid species recovery can be found at:

*<http://www.fws.gov/grants>.*

Please let us know if you are interested in participating in recovery efforts for Short's bladderpod, whorled sunflower, or fleshy-fruit gladeceess. Additionally, we invite you to submit any new information on these species whenever it becomes available and any information you may have for recovery planning purposes (see **FOR FURTHER INFORMATION CONTACT**).

Section 7(a) of the Act requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as an endangered or threatened species and with respect to its critical habitat, if any is designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR part 402.

Section 7(a)(4) of the Act requires Federal agencies to confer with the Service on any action that is likely to jeopardize the continued existence of a species proposed for listing or result in destruction or adverse modification of proposed critical habitat. If a species is listed subsequently, section 7(a)(2) of the Act requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of the species or destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into consultation with the Service.

Federal agency actions within the species' habitat that may require conference or consultation or both as described in the preceding paragraph include management and any other landscape-altering activities on Federal lands administered by the Army Corps of Engineers or U.S. Forest Service; issuance of section 10 Rivers and Harbors Act or section 404 Clean Water Act permits by the Army Corps of Engineers; herbicide registration by the Environmental Protection Agency; interstate pipeline construction or maintenance projects authorized by the Federal Energy Regulatory Commission; technical and financial assistance for projects provided by the Natural Resources Conservation Service; railway projects by the Federal Railroad Administration; and construction and maintenance of roads or highways by the Federal Highway Administration.

With respect to endangered plants, prohibitions outlined at 50 CFR 17.61 make it illegal for any person subject to the jurisdiction of the United States to import or export, transport in interstate or foreign commerce in the course of a commercial activity, sell or offer for sale in interstate or foreign commerce, or to remove and reduce to possession any such plant species from areas under Federal jurisdiction. In addition, for endangered plants, the Act prohibits malicious damage or destruction of any such species on any area under Federal jurisdiction, and the removal, cutting, digging up, or damaging or destroying of any such species on any other area in knowing violation of any State law or regulation, or in the course of any violation of a State criminal trespass law. Exceptions to these prohibitions are outlined in 50 CFR 17.62.

We may issue permits to carry out otherwise prohibited activities involving endangered plants under certain circumstances. Regulations governing permits are codified at 50 CFR 17.62. With regard to endangered plants, the Service may issue a permit authorizing any activity otherwise prohibited by 50 CFR 17.61 for scientific purposes or for enhancing the propagation or survival of endangered plants.

It is our policy, as published in the **Federal Register** on July 1, 1994 (59 FR 34272), to identify to the maximum extent practicable at the time a species is listed, those activities that would or would not constitute a violation of section 9 of the Act. The intent of this policy is to increase public awareness of the effect of a listing on proposed and ongoing activities within the range of listed species. Based on the best available information, the following actions are unlikely to result in a violation of section 9, if these activities are carried out in accordance with existing regulations and permit requirements:

- (1) Normal agricultural and silvicultural practices, including herbicide and pesticide use, which are carried out in accordance with any existing regulations, permit and label requirements, and best management practices; and
- (2) Normal residential landscape activities.

Activities that the Service believes could potentially harm the Short's bladderpod, whorled sunflower, or fleshy-fruit gladeceess and result in "take," include, but are not limited to:

(1) Unauthorized collecting, handling, possessing, selling, delivering, carrying, or transporting of the species, including import or export across State lines and international boundaries, except for properly documented antique specimens of these taxa at least 100 years old, as defined by section 10(h)(1) of the Act;

(2) Removing and reducing to possession any of the three plant species from areas under Federal jurisdiction; maliciously damaging or destroying any of the species on any such area; or removing, cutting, digging up, or damaging or destroying any of the species on any other area in knowing violation of any law or regulation of any State or in the course of any violation of a State criminal trespass law;

(3) Introducing any unauthorized nonnative wildlife or plant species to States where Short's bladderpod, whorled sunflower, or fleshy-fruit gladeceess occur that compete with or prey upon these three plant species;

(4) Releasing any unauthorized biological control agents into States where Short's bladderpod, whorled sunflower, or fleshy-fruit gladeceess occur that attack any life stage of these three plant species; and

(5) Modifying the habitat of Short's bladderpod, whorled sunflower, or fleshy-fruit gladeceess on Federal lands without authorization or coverage under the Act for impacts to these species.

Questions regarding whether specific activities would constitute a violation of section 9 of the Act should be directed to the Tennessee Ecological Services Field Office (see **FOR FURTHER INFORMATION CONTACT**).

## **Required Determinations**

### *National Environmental Policy Act (42 U.S.C. 4321 et seq.)*

We have determined that environmental assessments and environmental impact statements, as defined under the authority of the National Environmental Policy Act, need not be prepared in connection with listing a species as an endangered or threatened species under the Endangered Species Act. We published a notice outlining our reasons for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244).

### *Government-to-Government Relationship with Tribes*

In accordance with the President's memorandum of April 29, 1994 (Government-to-Government Relations with Native American Tribal Governments; 59 FR 22951), Executive Order 13175 (Consultation and Coordination With Indian Tribal Governments), and the Department of the Interior's manual at 512 DM 2, we readily acknowledge our responsibility to communicate meaningfully with recognized Federal Tribes on a government-to-government basis. In accordance with Secretarial Order 3206 of June 5, 1997 (American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act), we readily acknowledge our responsibilities to work directly with tribes in developing programs for healthy ecosystems, to acknowledge that tribal lands are not subject to the same controls as Federal public lands, to remain

sensitive to Indian culture, and to make information available to tribes. There are no known instances of these three plant species on Tribal lands.

### **References Cited**

A complete list of references cited in this rulemaking is available on the Internet at <http://www.regulations.gov> and upon request from the Tennessee Ecological Services Field Office (see **FOR FURTHER INFORMATION CONTACT**).

### **Authors**

The primary authors of this final rule are the staff members of the Tennessee and Alabama Ecological Services Field Offices.

### **List of Subjects in 50 CFR Part 17**

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, Transportation.

### **Regulation Promulgation**

Accordingly, we amend part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, as follows:

**PART 17—[AMENDED]**

1. The authority citation for part 17 continues to read as follows:

Authority: 16 U.S.C. 1361–1407; 1531–1544; and 4201–4245; unless otherwise noted.

2. Amend § 17.12(h) by adding entries to the List of Endangered and Threatened Plants for *Helianthus verticillatus*, *Leavenworthia crassa*, and *Physaria globosa*, in alphabetical order under Flowering Plants, to read as follows:

**§ 17.12 Endangered and threatened plants.**

\* \* \* \* \*

(h) \* \* \*

Species		Historic range	Family	Status	When listed	Critical habitat	Special rules
Scientific name	Common name						

#### Flowering Plants

\* \* \* \* \*

<i>Helianthus verticillatus</i>	whorled sunflower	U.S.A. (AL, GA, TN)	Asteraceae	E	842	NA	NA
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<i>Leavenworthia crassa</i>	fleshy-fruit gladeceess	U.S.A. (AL)	Brassicaceae	E	842	NA	NA
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<i>Physaria globosa</i>	Short's bladderpod	U.S.A. (IN, KY, TN)	Brassicaceae	E	842	NA	NA
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Dated: July 24, 2014

Signed: Stephen Guertin

Acting Director, U.S. Fish and Wildlife Service

Billing Code 4310–55

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